Agapanthia villosoviridescens **(Degeer) (Coleoptera: Cerambycidae) new to Gloucestershire.**—A specimen of this beetle was recently passed to me for identification by Mr Colin Twissell. It was found at Cutsdean Quarry Nature Reserve (SP 105315) during an invertebrate recording meeting of the Gloucestershire Naturalist's Society, 30.v.1992. This quarry formerly produced Chipping Norton limestone, and since closure has developed limestone grassland and scrub communities, with areas of rock rubble remaining largely unvegetated. The dominant plants are tor-grass, *Brachypodium pinnatum* (L.), upright brome, *Bromus erectus* Hudson, and gorse, *Ulex europaeus* L., with areas of finer herb-rich grassland and a band of bramble and elder scrub along the eastern edge.

A. villosoviridescens has a predominantly eastern distribution in the British Isles, having been found previously in the Midlands only as far west as Oxfordshire, Warwickshire and Staffordshire (Uhthoff-Kaufmann, 1991). There is also an old record for the Bristol area which cannot be allocated to any particular county (Atty, 1983). It is very localized within its range but can be plentiful where present. I have only taken it on two occasions: Horsey Estate, Norfolk (TG 4623), 26.vi.1986; and Ufton Fields Nature Reserve, Warwickshire (SP 378614), 10.ix.1988.—Keith N. A. Alexander, 22 Cecily Hill, Cirencester, Gloucestershire GL7 2EF.

References

Atty, D. B. 1983. *Coleoptera of Gloucestershire*. Privately published, Cheltenham.

Uhthoff-Kaufmann, R. R., 1991. The distribution and occurrence of *Acanthocinus* Dej. and *Agapanthia* Serv. (Col.: Lamiidae) in the British Isles. *Entomologist's Rec. J. Var.* **103**: 189–192.

Observations on the mating of *Cynthia cardui* (L.) (Lepidoptera: Nymphalidae).—Natural matings in the Nymphalidae are rarely observed, although nuptial flights in the late afternoon are commonly seen. It is now acknowledged that actual mating commences in the evening and extends into the night.

I have been able to obtain natural matings with home-bred *Cynthia cardui* using hanging flight cages in the greenhouse during the summer months without difficulty. The pairings have always occurred in the evening.

On 2.x.91 about 30 freshly emerged *Cynthia cardui* adults were placed in a flight cage. These had been reared in an incubator held at about 24° continuously and with a 15-hour day length. The adults were held under the same conditions and fed on 10% honey solution. The flight cage was kept under regular observation during both light and dark periods but no pairings were noted.

After 7 days and 1½ hours before "lights out", the heating was switched off and the incubator allowed to cool rapidly by opening the doors. The temperature fell swiftly to about 14°, the ambient temperature of the greenhouse. During this period, the adults became extremely active and I observed five matings in quick succession. After 30 minutes, the heating was turned back on and no further matings were seen. The process was repeated the next day and further matings were observed. No further matings occurred on subsequent days with the heating on continuously. I repeated the process on 18.x.92 using fresh stock and the results were similar.

From these observations, it would seem that, at least in *Cynthia cardui*, mating is induced by the evening fall in temperature rather than diminishing daylight.

Perhaps this is an adaptation to promote its breeding in the desert areas of its range where night temperatures fall very rapidly.—K. E. J. Bailey, Dipfield, Thorverton, Near Exeter, Devon EX5 5PJ.